

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as First Class Mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Dated: February 6, 2007

Signature: _____

(James P. Zeller)

Docket No.: 27392/29382
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re Patent Application of:
Wilhelm Kraemer

Application No.: 10/575,741

Filed: April 10, 2006

For: Calibratable Microwave Circuit With Illuminable
Gaas-Fet, Calibrating Device and Process

Art Unit: Not Yet Assigned

Examiner: Not Yet Assigned

SUBMISSION OF TRANSLATION OF WRITTEN OPINION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Submitted herewith is a copy of an English language translation of a "Written Opinion of the International Searching Authority" in International Application No. PCT/EP2005/004330.

Entry and consideration of these submitted documents are solicited.

February 6, 2007

Respectfully submitted,

By _____
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

TRANSLATION

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing **See form PCT/ISA/210**
(day/month/year)

| | | |
|---|---|---|
| Applicant's or agent's file reference P29382/WO Kf | | FOR FURTHER ACTION See paragraph 2 below |
| International application No. PCT/EP2005/004330 | International filing date (day/month/year) 22.04.2005 | Priority date (day/month/year) 17.05.2004 |
| International Patent Classification (IPC) or both national classification and IPC H01P1/15, H03H11/14, H03H11/24, H03K17/041, H03K17/16, H03K17/687 | | |
| Applicant ROHDE & SCHWARZ GMBH & CO. KG | | |

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

| | |
|--|--------------------|
| Name and mailing address of the ISA/EP | Authorized officer |
| Facsimile No. | Telephone No. |

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/004330

Box No. 1 Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/004330

Box No. IV

Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:
- ☒ paid additional fees
 - ☐ paid additional fees under protest
 - ☐ not paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:

The different inventions/groups of inventions are as follows:

1-11

A microwave circuit with GaAs field-effect transistors on a semiconductor substrate for switching high-frequency signals, wherein the transistors are illuminated by a light source. The intensity and/or colour of the light source can be modified during operation. 12-15

A calibrating device and method for calibrating the light intensity/colour of a light source that can be modified during operation in order to calibrate a microwave circuit.

For the following reasons, these inventions/groups of inventions are not linked in such a way as to form a single general inventive concept (PCT Rule 13.1):

(continued in Supplemental Box)

4. Consequently, this opinion has been established in respect of the following parts of the international application:

- ☒ all parts
- ☐ the parts relating to claims Nos. _____

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/EP2005/004330

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability:
citations and explanations supporting such statement**

1. Statement

| | | | |
|-------------------------------|--------|-----------------------|-----|
| Novelty (N) | Claims | <u>2, 4-10, 12-15</u> | YES |
| | Claims | <u>1, 3, 11</u> | NO |
| Inventive step (IS) | Claims | <u>2, 4-10, 12-15</u> | YES |
| | Claims | <u>1, 3, 11</u> | NO |
| Industrial applicability (IA) | Claims | <u>1-15</u> | YES |
| | Claims | <u></u> | NO |

2. Citations and explanations:

1 Reference is made to the following document:

D1: US 5 073 717 A (STURZEBECHER ET AL) 17

December 1991 (1991-12-17)

2 INDEPENDENT CLAIM 1

2.1 The present application does not satisfy the requirements of PCT Article 33(1) because the subject matter of claim 1 is not novel within the meaning of PCT Article 33(2). Document D1 discloses (the references between parentheses apply to said document):

An electronic microwave circuit (see title, figure 1) with field-effect transistors integrated on a semiconductor substrate (see column 2, lines 37-38 and lines 64-66), for switching electric input high-frequency signals and a light source for illuminating the GaAs field-effect transistors. The light intensity of the light source can be modified during operation (see column 1, lines 51-55).

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

3 DEPENDENT CLAIMS 3, 11

Claims 3, 11 do not contain any features that, in combination with the features of any claim to which they refer, meet the PCT requirements for novelty and/or inventive step (see figure 1: 23, 22).

4 DEPENDENT CLAIMS 2, 4-10

The combination of features contained in the dependent claims is neither known from nor rendered obvious by the available prior art.

5 INDEPENDENT CLAIMS 12, 14

The subject matter of claims 12 and 14 appears to be novel and inventive over the prior art because no document contains these features or suggests the subject matter of these independent claims. Neither a calibration device as per claim 12 nor a method for operating such a device is known from the available prior art.

6 DEPENDENT CLAIMS 13, 15

Likewise, therefore, the combinations of features contained in the dependent claims are neither known from nor rendered obvious by the available prior art.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/004330

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box IV

The common subject matter of claims 1, 12 and 14 consists in a microwave circuit with GaAs transistors that are illuminated, wherein the illumination source is varied during operation.

The common subject matter specified above is prior art (see, for example, US 5073717), so the independent claims do not have a common inventive concept.

Since claim 1 actually comprises several independent claims and/or a combination thereof, there is a lack of unity of invention within claim 1, strictly speaking.